



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/514,144	02/28/2000	Peter C. Lund	2380-57	9296

7590

07/28/2004

J Scott Davidson
Nixon & Vanderhye P C
1100 N Glebe Rd
8th Floor
Arlington, VA 22201

EXAMINER

JAGANNATHAN, MELANIE

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 07/28/2004

HW

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/514,144

Applicant(s)

LUND ET AL.

Examiner

Melanie Jagannathan

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-25 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2666

DETAILED ACTION

1. Examiner acknowledges receipt of Appeal Brief dated 5/14/2004. Examiner *withdraws finality* of rejection dated 12/19/2003 and regrets any inconvenience.

Claim Objections

2. Claim 16 is objected to because of the following informalities: on line 15, "interconnections" should be changed to "interconnection". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-15, and 17-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Edmaier et al. US 5,627,822.

Regarding claims 1,3-7, 13, 17-25, the claimed first and second redundant links between first and second switch modules in common switch node (claims 1,3,5,6,13,17-18,20-25) is anticipated by active virtual path and alternate virtual path between switching equipment (Figure 1, CCa, CCb) in ATM communication network. The claimed receiving a data packet with a destination address is anticipated by message cells

Art Unit: 2666

sent from CCa switching equipment to CCb with internal self-routing header placed in message. See column 7, lines 18-51. The claimed over-writing destination address with a routing tag identifying only an active one of the first and second links (claim 1,3-7,13,17,19,20) is anticipated by switching of virtual path AP onto alternate path EP in response to redirect signal supplied to control means of switching equipment and control means supplying an internal cell header that contains routing information in order to route over alternate path EP. See column 7, lines 58-67, column 8, and lines 1-4.

Regarding claim 2, the claimed step of simultaneously receiving at first and second link terminals the data packet having routing tag is disclosed by same message cell streams supplied at interface means of active path and alternate path. See column 2, lines 21-32.

Regarding claims 8-9, the claimed both first and second terminals receive data packets and one of the first and second link terminals block passage of packets to corresponding one of first and second links is disclosed by same message cell streams supplied at interface means of active path and alternate path. See column 2, lines 21-32. The two message cell streams are monitored by switching equipment such that only one of two of the message cells streams is forwarded. See column 2, lines 32-47.

Furthermore, regarding claim 5, the claimed routing tagger to receive a stream of data packets destined for second module and to apply a node-internal routing tag to data packets to direct the stream to only one of first and second redundant links is disclosed by control means supplying an internal cell header that contains routing information in order to route over alternate path EP in response to redirect signal. See column 7, lines 58-67, column 8, and lines 1-4.

Art Unit: 2666

Additionally, regarding claims 6, 13, the claimed module including set of device boards outputting the data packets with standard addresses and switch core in communication with device boards to receive packets and overwrite the addresses is disclosed by switching equipment in communication with interface means (Figure 1, elements T1, T2, T3) and switching equipment including control means that supplies an internal cell header that contains routing information in order to route over alternate path EP in response to redirect signal. See column 7, lines 58-67, column 8, and lines 1-4.

Regarding claim 10, the claimed data packets created without regard to redundancy of first and second links is anticipated by message cell streams created and sent to switching equipment before the start of the path pairs (active and alternate) and switching equipment in charge of transmitting over which path. See column 2, lines 21-47.

Regarding claims 11 and 12, the claimed overwriting the standard addresses under a first operational condition as normal condition in first link and overwriting the standard addresses under a second operational condition as fault condition in first link is anticipated by with normal operation of active path, message cells are transmitted over active path according to self-routing principle in that internal self-routing cell headers are placed in front of every message cell upon entry into respective switching equipment and with fault condition is disclosed by switching equipment including control means that supplies an internal cell header that contains routing information in order to route over alternate path EP in response to redirect signal. See column 7, lines 18-67, column 8, and lines 1-4.

Art Unit: 2666

Regarding claims 14 and 15, the claimed modules between first and second modules are anticipated by intermediate switching equipment (Figure 1, elements CC1, CC2, CC3).

Furthermore, regarding claims 17, 18, the claimed set of links including a first set of links actively carrying data packets between first and second modules and at least one extra link that remains idle until a failure is detected in any one of first set of links, whereupon extra link takes place of failed link is disclosed by plurality of virtual path pairs, pair being active and alternate paths, proceeding within ATM network and based on redirect signal from transmitting on active paths, message cells then transmitted over alternate paths. See column 6, lines 44-67 and column 7.

Regarding claim 19, the claimed internal routing taggers to tag data packets to particular one of first set of links until any one of first set of links fails whereupon taggers instead tag the data packets otherwise destined for failed link to extra link is disclosed by control means supplying an internal cell header that contains routing information in order to route over alternate path EP in response to redirect signal. See column 7, lines 58-67, column 8, and lines 1-4.

Additionally, regarding claims 20-25, the claimed N number of first links and M number of second links is disclosed by plurality of virtual path pairs, pair being active and alternate paths, proceeding within ATM network. The claimed switch module containing fault detector is disclosed by central network control means sending redirect signal and control means supplying an internal cell header that contains routing information in order to route over alternate path EP in response to redirect signal. See column 7, lines 58-67, column 8, and lines 1-4.

Art Unit: 2666

The claimed switch core communicating between at least one device circuit and first and second links to route data packets from device to at least N number of currently operable first and second links is disclosed by switching equipment connected to interface means routing packets over plurality of virtual path pairs, active and alternate paths. See Figure 1 and column 6.

Allowable Subject Matter

5. Claim 16 would be allowable if rewritten to overcome claim objection due to minor informality. Prior art of record does not disclose, in single or in combination, ATM switch modules in ATM switch node each comprising power distribution layer, clock functions layer, ATM switch planes in communication with clock functions layer, an interconnection links layer connecting to another interconnection links layer of another set of ATM switch modules via at least first and second redundant links, interconnection links layer detecting faults in links and redirecting communication to one of first and second links whenever faults are detected in other links, and an applications layer in communication with interconnection links and providing packets to interconnection links layer, operating independently of detecting and redirecting aspects.

Art Unit: 2666

Response to Arguments

6. Applicant's arguments filed 9/4/2003 have been fully considered but they are moot in view of new grounds of rejection. Examiner withdraws finality of previous office action. Examiner submits reference Edmaier et al. as new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 703-305-8078. The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melanie Jagannathan
Patent Examiner
AU 2666

Application Number: 09/514,144

Art Unit: 2666

Page 8

MJ

A handwritten signature in black ink, appearing to read "Frank Duong".

FRANK DUONG
PRIMARY EXAMINER